

2. If the total area of the CBG is greater than 0.5 square miles, the new percent empty was calculated by the following equation:

$$1 - \frac{(0.000386 \times (\text{No. of households} + \text{No. of firms}))}{\text{Area of CBG}}$$

Note: 0.000386 is the square mile equivalent of a 10,000 square foot lot.

8. Errors Tab

Issue

CBG may contain an unreadable CLLI code.

Action

Remove CBG.

9. Adjusted OCN

Issue

Occasionally, the wire center was mapped to the incorrect company.

Action

The correct company name, group number and OCN for the wire center in question was applied to the dataset.

10. Unrecognized CLLI

Issue

Occasionally, a wire center or CLLI in the LERG has not been mapped to any CBG in the HM 3.1 dataset, or the PNR data includes a wire center that is not listed in the LERG.

Action

These wire centers have been removed from the dataset and documented.

III. HM 3.0 Inputs Field Descriptions (per CBG)

<i>Field</i>	<i>Description</i>
STATE:	State Code
CLLI:	8 Digit CLLI of the wire center to which the CBG belongs
COMPANY:	Company Name
OCN:	6 digit OCN for each company - first two digits represent census state code and the next four is the LERG OCN code
GROUP:	1=NonRBOC Large Tier 1 (GTE/CONTEL and SPRINT/CENTEL) 2=All other independent telephone companies which file ARMIS 3=Greater than 50,000 lines nationwide and do not file ARMIS 4=Less than 50,000 lines nationwide and do not file ARMIS 8=RBOC and SNET
CBG:	Total geo-code
QUAD:	Quadrant where the centroid of the CBG falls CLLI
ALPHA:	Angle from main feeder route to CBG centroid
OMEGA:	Angle from horizontal to CBG centroid
DISTANCE:	Distance between centroid of the Wire Center and the centroid of the CBG
AREA:	CBG area including land and water
% EMPTY:	% of area of the CBG with no lines (% of empty land + water)
DENSITY:	Total Lines per square mile
ROCK DEPTH:	Data from HM2.2.2
SURF TEXT:	Data from HM2.2.2
ROCK HARD:	Data from HM2.2.2
WATER TABLE:	Data from HM2.2.2
TOTAL LINES:	Sum of Bus., Res., Special, and Public lines
BUS LINES:	Total Business lines
RES LINES:	Total Residential lines
SPECIAL LINES:	Total Special lines
PUBLIC LINES:	Total Public lines
SINGLE LB:	Number of SLB
HOUSEHOLDS:	Households per CBG
HU-1 DETACH:	1 unit structure detached from any other (all housing types include occupied and vacant)
HU-1 ATTACH:	1 unit structure attached to other structures
HU-2:	Structure containing 2 units
HU-4:	Structure containing 4 units
HU 5-9:	Structure containing 5-9 units
HU 10-19:	Structure containing 10-19 units
HU 20-49:	Structure containing 20-49 units

Hatfield Model, Release 3.1 Inputs

<i>Field</i>	<i>Description</i>
HU 50+:	Structure containing more than 50 units
MOBILE:	Mobile home or trailer
OTHER:	Any other
FIRMS:	Firms in a CBG (does not represent locations)
EMPLOYEES:	Employees in CBG
WC DIST. CHANGE:	If this field contains an "X", the Wire Center provided by PNR was replaced with the Wire Center mapped to this CBG in HM2.2.2. This will occur only if the radial distance calculated using the PNR Wire Center is greater than 10,000 ft. <i>and</i> more than 1.5 times the distance indicated in HM2.2.2 (Note: HM2.2.2 uses the BCM-PLUS convention of mapping Wire Centers to the closest CBG in radial distance.)

Appendix B – Hatfield Model Release 3.1 Inputs, Assumptions and Default Values

This appendix provides a list of the Hatfield Model Release 3.0 user inputs, as well as their definition and the default values set in the model. It is organized based on the series of user input dialogue boxes that are used to set parameters in the Hatfield Model interface. This yields the following hierarchy:

Input Parameter Category (distribution, feeder, wire center, and expense)

Category dialogue box (NID, drop, switching parameters, etc.)

User Input field (fiber strands per remote terminal, etc.)

The appendix is organized into two sections. The first contains the index of dialogue boxes and specific user input fields. The second lists the inputs with their definitions and default values. These are numbered sequentially from B1 through B178. To facilitate cross-referencing between the two sections, each user input field in the first section contains a numbered entry from the second section. Thus, for instance, the "B1" next to the Residential NID Materials, No Protector entry refers to the first item in the second section of the appendix.

With this organization, the appendix allows a user who is examining a given user input dialogue box and specific user input field to locate that box/field in the index in the first section, read the number of the corresponding input definition, and use that number to locate the input definition and default value in the second section.

Note that a few parameters are set in one module but used by several modules. In such cases, the parameter appears only once, but its use in other modules is noted at the end of each input parameter category in this index.

Part 1: Index of Dialogue Boxes and User Input Fields

Distribution

NID

B1	Residential NID materials, no protector
B1	Residential NID Basis Labor
B1	Residential Max Lines per NID
B1	Residential Protection Block, per pair
B1	Business NID case, no protector
B1	Business NID Basis Labor
B1	Business Protection Block, per pair

Drop

B2	Drop Distance
----	---------------

B3	Aerial Drop Installation, total
B3	Buried Drop Installation/foot
B4	Buried Drop Sharing Fraction
B5	Buried Drop Fraction
B6	Average Lines Per Business Locations
B7	Buried Terminal and Splice per Line
B7	Aerial Terminal and Splice per Line
B8	Buried Drop Investment per Foot
B8	Aerial Drop Investment per Foot
B8	Buried Pairs
B8	Aerial Pairs

Cable and Riser Investment

B9	Distribution Cable Size
B10	Distribution Cable, \$/foot
B11	Riser Cable Size
B11	Riser Cable, \$/foot

Poles and Conduit

B12	Pole Investment
B12	Pole Labor
B13	Buried Cable Sheath Multiplier
B14	Conduit Investment per Foot
B15	Spare Tubes per Route
B16	Regional Labor Adjustment Factor

Placement Fraction

B17	Aerial Fraction
B17	Underground Fraction

Fill and Installation

B18	Cable Fill
B19	Conduit Installation
B20	Buried Installation/ft.
B21	Pole Spacing

Geology and Clusters

B22	Difficult Terrain Distance Multiplier
B23	Rock Depth Threshold, inches
B24	Hard Rock Placement Multiplier
B25	Soft Rock Placement Multiplier
B26	Difficult Surface Multiplier
B26a	Sidewalk / Street Fraction
B27	Local RT (per cluster) thresholds – Maximum Total Distance
B28	Town Factor
B29	Max lot size, acres
B30	Town lot size, acres

Long Loop Adjustments

B31	Loading Adjustment \$ per line
B32	Cable Inventory Adjustment
B33	DLC CU Adjustment

SAI Investment

B34	Cable Size
B34	Indoor SAI
B34	Outdoor SAI

Feeder

Copper Placement

B35	Aerial Fraction
B35	Buried Fraction
B35	Underground Fraction
B36	Buried Installation/ft.
B37	Conduit Installation/ft.
B38	Manhole Spacing/ft.
B39	Pole Spacing, ft.
B40	Pole Materials
B40	Pole Labor
B41	Inner Duct Investment per Foot

Fiber Placement

B42	Aerial Fraction
B42	Buried Fraction
B42	Underground Fraction
B43	Buried Installation/ft.
B44	Conduit Installation/ft.
B45	Pullbox Spacing, ft.
B46	Buried Fiber Sheath Addition per Foot

Fill Factors

B47	Copper Feeder Fill
B48	Fiber Feeder Fill

Cable Costs

B49	Copper Investment per foot
B50	Fiber Investment per foot

DLC Equipment

B51	TR – 303 DLC Remote Terminal – Site and Power
B51	Low Density DLC Remote Terminal – Site and Power
B52	TR – 303 DLC Remote Terminal – Maximum Lines
B52	Low Density DLC Remote Terminal – Maximum Lines
B53	TR – 303 DLC Remote Terminal – RT Fill Factor
B53	Low Density DLC Remote Terminal – RT Fill Factor
B54	TR – 303 DLC Remote Terminal – Common Equipment Investment
B54	Low Density DLC Remote Terminal – Common Equipment Investment
B55	TR – 303 DLC Remote Terminal – POTS Channel Unit Investment
B55	Low Density DLC Remote Terminal – POTS Channel Unit Investment
B56	TR – 303 DLC Remote Terminal – POTS Lines per CU
B56	Low Density DLC Remote Terminal – POTS Lines per CU
B55	TR – 303 DLC Remote Terminal – Coin Channel Unit Investment

B55	Low Density DLC Remote Terminal – Coin Channel Unit Investment
B56	TR – 303 DLC Remote Terminal – Coin Lines per CU
B56	Low Density DLC Remote Terminal – Coin Lines per CU
B57	LD Crossover Lines
B58	TR – 303 DLC Remote Terminal – Fibers per RT
B58	Low Density DLC Remote Terminal – Fibers per RT
B59	TR – 303 DLC Remote Terminal – Optical Patch Panel
B59	Low Density DLC Remote Terminal – Optical Patch Panel
B60	Copper Feeder Max Distance, ft
B61	TR – 303 DLC Remote Terminal – Common Equipment Investment per 672 Lines
B61	Low Density DLC Remote Terminal – Common Equipment Investment per 96 Lines
B62	TR – 303 DLC Remote Terminal – Number of Max Line Modules / RT
B62	Low Density DLC Remote Terminal – Number of Max Line Modules / RT

Copper Manhole Investment

B63	Materials
B63	Frame and Cover
B63	Site Delivery
B63	Excavate and Backfill

Fiber Pullbox Investment

B64	Materials
B64	Installation

Note: The Feeder Module also uses inputs B13-B15.

Switching and Interoffice Transmission

End Office Switching

B65	Real time (BHCA)
B66	Traffic (BHCCS)
B67	Switch maximum line size
B68	Switch maximum port fill
B69	Switch maximum processor occupancy
B70	MDF/protector investment per line
B71	Analog line circuit offset of DLC per line
B72	Switch installation multiplier
B73	End Office Switching Investment Constant – BOC and Large ICO
B73	End Office Switching Investment Constant – Small ICO
B74	Processor Feature Loading Multiplier - Normal
B74	Processor Feature Loading Multiplier - Heavy business
B75	Processor Feature Loading Multiplier - Business penetration threshold

Wire Center

B76	Lot size, multiplier of switch room size
B77	Tandem/EO common factor
B78	Power
B79	Switch Room Size, square ft.

B80	Construction, square ft.
B81	Land, square ft.

Traffic Parameters

B82	Local Call Attempts
B83	Call Completion Factor
B84	IntraLATA Calls Completed
B85	InterLATA Intrastate Calls Completed
B86	InterLATA Interstate Calls Completed
B87	Local DEMs, thousands
B88	Intrastate DEMs, thousands
B89	Interstate DEMs, thousands
B90	Local Business/Residential DEMs
B91	Intrastate Business/Residential DEMs
B92	Interstate Business/Residential DEMs
B93	BH Fraction of Daily Usage
B94	Annual to Daily Usage Reduction Factor
B95	Residential Holding Time Multiplier
B95	Business Holding Time Multiplier
B96	Residential Call Attempts/BH
B96	Business Call Attempts/BH
B97	ICO STP Investment per line – Not used here – See ICO Parameter Section
B98	ICO Local Tandem Investment per line – Not used here – See ICO Parameter Section
B99	ICO OS Tandem Investment per line – Not used here – See ICO Parameter Section

Interoffice Investment

B105	OC-48 ADM, installed, 48 DS-3s
B105	OC-48 ADM, installed, 12 DS-3s
B105	OC-3/DS-1 Terminal Multiplexer, installed, 04 DS-1s
B105	Investment per 7 DS-1s
B106	Number of Fibers
B107	Pigtails, per strand
B108	Optical Distribution Panel
B109	EF&I, per hour
B110	EF&I, hours
B111	Regenerator, installed
B112	Regenerator Spacing, miles
B113	Channel Bank Investment/24 lines
B114	Fraction of SA lines required multiplex
B115	Digital Cross Connect System, installed per STS3
B116	Transmission Terminal Fill (DS-0 level)
B117	Fiber Cable
B118	Number of Strands per ADM
B119	Buried Fraction
B120	Buried Placement
B121	Buried Sheath Addition
B119	Aerial Fraction
B122	Conduit
B122	Spare Tubes per route
B120	Conduit Placement

B123	Pullbox Spacing
B124	Pullbox Investment
B125	Pole Spacing, ft.
B126	Pole Material
B126	Labor (basic)
B127	Fraction of poles and buried/underground placement common with feeder
B128	Fraction of aerial structure assigned to telephone
B128	Fraction of buried structure assigned to telephone
B128	Fraction of underground structure assigned to telephone

Transmission Parameters

B129	Operator Traffic Fraction
B130	Total Interoffice Traffic Fraction
B131	Maximum Trunk Occupancy, CCS
B132	Trunk Port, per end
B133	Direct Routed fraction of local interoffice
B134	Tandem Routed fraction of intraLATA traffic
B135	Tandem Routed fraction of interLATA traffic
B135a	POPs per Tandem Location

Tandem Switching

B136	Real Time Limit, BHCA
B137	Port Limit, trunks
B138	Common Equipment Investment
B139	Maximum Trunk Fill
B140	Maximum Real Time Occupancy
B141	Common Equipment Intercept Factor
B142	Entrance Facility Distance from Serving Wire Center & IXC POP

Signaling

B143	STP Link Capacity
B144	STP Maximum Fill
B145	STP investment, per pair, maximum
B146	STP investment, per pair, minimum
B147	Link Termination, both ends
B148	Signaling Bit Rate
B149	Link Occupancy
B150	C Link Cross Section
B151	ISUP Messages per interoffice BHCA
B152	ISUP Messages length, bytes
B153	TCAP Messages per transaction
B154	TCAP Message Length, bytes
B155	Fraction of BHCA requiring TCAP
B156	SCP investment/transaction/second

OS and Public Telephone

B157	Investment per position
B158	Maximum Utilization per position, CCS
B159	Operator Intervention Factor
B160	Public Telephone Equipment Investment, per station

ICO Parameters

B97	ICO STP Investment per line, Equipment
B98	ICO Local Tandem Investment per line, Equipment
B99	ICO OS Tandem Investment per line, Equipment
B100	ICO SCP Investment per line, Equipment
B103	ICO STP/SCP Wire Center Investment per line
B101	ICO Local Tandem Wire Center Investment per line
B102	ICO OS Tandem Wire Center Investment per line
B104	ICO C-Link / Tandem A-Link Investment per line

Note: The Switching and Interoffice Transmission Module also uses input B16.

Expense

Cost of Capital

B161	Cost of Debt
B161	Debt Fraction
B161	Cost of Equity

Depreciation

B162	Motor Vehicles
B162	Garage Work Equipment
B162	Other Work Equipment
B162	Buildings
B162	Furniture
B162	Office Support Equipment
B162	Company Comm. Equipment
B162	General Purpose Computer
B162	Digital Electronic Switching
B162	Operator Systems
B162	Digital Circuit Equipment
B162	Public Telephone Terminal Equipment
B162	Poles
B162	Aerial Cable -- metallic
B162	Aerial Cable -- non metallic
B162	Underground Cable -- metallic
B162	Underground Cable -- non metallic
B162	Buried Cable -- metallic
B162	Buried Cable -- non metallic
B162	Intrabuilding Cable -- metallic
B162	Intrabuilding Cable -- non metallic
B162	Conduit Systems

Structure Fraction Assigned to Telephone

B163	Distribution Aerial
B163	Distribution Buried
B163	Distribution Underground
B163	Feeder Aerial
B163	Feeder Buried
B163	Feeder Underground

Other

B164	Income Tax Rate
B165	Corporate Overhead Factor
B166	Other Taxes Factor
B167	Billing/Bill Inquiry per line per month
B168	Directory Listing per line per month
B169	Forward-looking Network Operations Factor
B170	Alternative CO Switching Factor
B171	Alternative Circuit Equipment Factor
B172	EO Traffic Sensitive Fraction
B173	Per line monthly LNP cost
B174	Carrier – Carrier Customer Service, per line per year
B175	NID Expense per line per year
B176	DS-0/DS-1 Crossover
B177	DS-1/DS-3 Crossover
B177a	Average Lines per Business Location
B178	Average Trunk Utilization

Part 2: Input Parameter Definitions and Default Values

DISTRIBUTION INPUT PARAMETERS

B1. NID Investment per line

Definition

The investment in the components of the network interface device (NID), the device at the customers' premises within which the drop wire terminates, and which is the point of subscriber demarcation.

Default Values

Residential NID case, no protector	\$10.00
Residential NID basic labor	<u>\$15.00</u>
Installed NID case	\$25.00
Maximum lines per res. NID	6
Protection block, per line	\$4.00
Business NID case, no protector	\$25.00
Business NID basic labor	<u>\$15.00</u>
Installed NID case	\$40.00
Protection block, per line	\$4.00

B2. Drop Distance

Definition

The average length of a drop cable in each of nine density zones.

Default Values

0-5	150
5-100	150
100-200	100
200-650	100
650-850	50
850-2,550	50
2,550-5,000	50
5,000-10,000	50
10,000+	50

B3. Drop Placement, Aerial and Buried

Definition

The total placement cost by density zone of an aerial drop wire, and the cost per foot for buried distribution cable placement, respectively.

Default Values

0-5	\$58.33	\$0.75
5-100	\$58.33	\$0.75
100-200	\$46.67	\$0.75
200-650	\$35.00	\$0.75
650-850	\$23.33	\$0.75
850-2,550	\$11.67	\$0.75
2,550-5,000	\$11.67	\$1.13
5,000-10,000	\$11.67	\$1.50
10,000+	\$11.67	\$5.00

B4. Buried Drop Sharing Fraction

Definition

The fraction of buried drop cost that is assigned to the telephone company. The other portion of the cost is

B7. Terminal and Splice Investment per line

Definition

The installed cost per line for the terminal and splice that connect the drop to the distribution cable.

Default Value

Buried	Aerial
\$42.50	\$32.00

B8. Drop Cable Investment, per foot and Pairs per Wire

Definition

The investment per foot required for aerial and buried drop wire, and the number of pairs in each type of drop wire.

Default Values

Aerial	\$0.095	2
Buried	\$0.140	3

B9. Distribution Cable Sizes

Definition

Cable sizes used for distribution cable variables (in pairs).

Default Values

2400
1800
1200
900
600
400
200
100
50
25
12
6

B10. Copper Distribution Cable, \$/foot

Definition

The cost per foot of copper distribution cable, as a function of cable size, including the costs of engineering, installation, and delivery, as well as the cable material itself.

Default Values

2400	\$42.75
1800	\$32.25
1200	\$21.75
900	\$16.50
600	\$11.25
400	\$7.75
200	\$4.25
100	\$2.50
50	\$1.63
25	\$1.19
12	\$0.76
6	\$0.63

B11. Riser Cable, \$/foot

Definition

The cost per foot of copper riser cable (cable inside high-rise buildings), as a function of cable size, including the costs of engineering, installation, and delivery, as well as the cable material itself.

Default Values

2400	\$42.75
1800	\$32.25
1200	\$21.75
900	\$16.50
600	\$11.25
400	\$7.75
200	\$4.25
100	\$2.50
50	\$1.63
25	\$1.19
12	\$0.76
6	\$0.63

B12. Pole Investment

Definition

The installed cost of a 40' Class 4 treated southern pine pole.

Default Value

Materials	\$201
Labor	\$216
Total	\$417

B13. Buried Copper Cable Sheath Multiplier (feeder and distribution)

Definition

The additional cost of the filling compound used in buried cable to protect the cable from moisture expressed as a multiplier of the cost of non-armored cable.

Default value

1.04

B14. Conduit Material Investment per foot

Definition

Material cost per foot of duct for 4" PVC.

Default Value

\$0.60

B15. Spare Tubes per Route (distribution)

Definition

The number of spare tubes (i.e., conduit) placed per route.

Default Value

1

B16. Regional Labor Adjustment Factor

Definition

A factor that adjusts the labor cost portion of certain investments to account for regional differences in the availability of trained labor, union contracts, and cost of living factors.

Default value

1.0

B17. Distribution Structure Fractions

Definition

The relative amounts of different structure types supporting distribution cable in each density zone. Aerial distribution cable is attached to telephone poles or buildings, buried cable is laid directly in the earth, and underground cable runs through underground conduit.

Defaults

0-5	.25	.75	0
5-100	.25	.75	0
100-200	.25	.75	0
200-650	.30	.70	0
650-850	.30	.70	0
850-2,550	.30	.70	0
2,550-5,000	.30	.65	.05
5,000-10,000	.60	.35	.05
10,000+	.85	.05	.10

B18. Distribution Cable Fill Factors

Definition

The spare or excess capacity in a distribution cable, calculated as the ratio of the number of assigned pairs to the total number of available pairs in the cable.

Default Values

0-5	.50
5-100	.55
100-200	.55
200-650	.60
650-850	.65
850-2,550	.70
2,550-5,000	.75
5,000-10,000	.75
10,000+	.75

B19. Distribution Conduit Placement Cost/Foot

Definition

The cost per foot of placing underground conduit.

Default Values

0-5	\$10.29
5-100	\$10.29
100-200	\$10.29
200-650	\$11.35
650-850	\$11.88
850-2,550	\$16.40
2,550-5,000	\$21.60
5,000-10,000	\$50.10
10,000+	\$75.00

B20. Distribution Buried Installation Cost/Foot

Definition

The cost per foot of placing distribution cable in trenches.

Default Values

0-5	\$1.77
5-100	\$1.77
100-200	\$1.77
200-650	\$1.93
650-850	\$2.17
850-2,550	\$3.54
2,550-5,000	\$4.27
5,000-10,000	\$13.00
10,000+	\$45.00

B21. Distribution Pole Spacing

Definition

Spacing between poles supporting aerial distribution cable.

Default Values

0-5	250
5-100	250
100-200	200
200-650	200
650-850	175
850-2,550	175
2,550-5,000	150
5,000-10,000	150
10,000+	150

B22. Distribution Multiplier, Difficult Terrain

Definition

The amount of extra distance required to route distribution and feeder cable around difficult soil conditions, expressed as a multiplier of the distance calculated for normal situations.

Default

1.2

B23. Rock Depth Threshold, inches

Definition

The depth of bedrock, above which (that is, closer to the surface) additional costs are incurred for placing distribution or feeder cable.

Default

24 inches

B24. Hard Rock Placement Multiplier

Definition

The increased cost required to place distribution or feeder cable in bedrock classified as hard, when it is within the rock depth threshold of the surface, expressed as a multiplier of normal installation cost per foot.

Default

3.5

B25. Soft Rock Placement Multiplier

Default Values

0-5	250
5-100	250
100-200	200
200-650	200
650-850	175
850-2,550	175
2,550-5,000	150
5,000-10,000	150
10,000+	150

B22. Distribution Multiplier, Difficult Terrain

Definition

The amount of extra distance required to route distribution and feeder cable around difficult soil conditions, expressed as a multiplier of the distance calculated for normal situations.

Default

1.2

B23. Rock Depth Threshold, inches

Definition

The depth of bedrock, above which (that is, closer to the surface) additional costs are incurred for placing distribution or feeder cable.

Default

24 inches

B24. Hard Rock Placement Multiplier

Definition

The increased cost required to place distribution or feeder cable in bedrock classified as hard, when it is within the rock depth threshold of the surface, expressed as a multiplier of normal installation cost per foot.

Default

3.5

B25. Soft Rock Placement Multiplier

Definition

The increased cost required to place distribution or feeder cable in bedrock classified as soft, when it is

within the rock depth threshold of the surface, expressed as a multiplier of normal installation cost per foot.

Default

2.0

B26. Distribution Multiplier, Difficult Surface

Definition

The increased cost required to place distribution or feeder cable due to difficult soil conditions, expressed as a multiplier of the normal installation cost per foot.

Default

1.0

B26a. Sidewalk / Street Fraction

Definition

The fraction of small (< .03 sq. mile) downtown CBGs that are streets and sidewalks.

Default

.20

B27. Local RT (per cluster) thresholds – Maximum Total Distance

Definition

The maximum potential distribution length, in feet, above which Remote Terminals are located at the center of each cluster, rather than at the center of the CBG, in order to reduce the remaining distribution length.

Default

18,000

B28. Town Factor

Definition

The fraction of business and residential customers that are assumed to be located in towns, as opposed to surrounding areas, for those cases in which the model determines that population should be clustered in towns.

Default

.85

B29. Maximum Lot Size, in acres

Definition

The maximum effective lot size in a CBG, above which it is assumed that the population is clustered into areas whose effective lot size is the default value (that is, there is a cap on the amount of land each

subscriber occupies).

Default

3.0 acres

B30. Town Lot Size, in acres

Definition

The lot size of subscribers residing in towns when the model determines that clustering in towns is appropriate.

Default

3.0 acres

B31. Loading Investment per Line

Definition

The investment required to add loading coils for copper distances greater than 18,000 feet, stated as the additional investment at various fixed break points.

Default Value

18,000	\$20
27,000	\$40
55,000	\$75
99,000	\$110
178,000	\$175

B32. Cable Gauge Multiplier

Definition

Multiplier of the material portion of the per foot cable investment to reflect the need for coarser gauge cable for copper distances greater than 18,000 feet, stated as the additional investment at various fixed break points.

Default Value

18,000	1.36
27,000	2.55
55,000	2.55
99,000	13.07
178,000	13.07

B33. DLC Channel Unit Adjustment

Definition

The increase in investment required for a DLC channel unit that can drive increased current through loops for copper distances greater than 18,000 feet, stated as the additional investment at various fixed break points.

Default Value

18,000	1
27,000	1
55,000	1.25
99,000	1
178,000	1.25

B34. Serving Area Interface (SAI) Investment

Definition

The installed investment in the SAI that acts as the physical interface point between distribution and feeder cable.

Default Values

2400	\$1,052	\$4,469
1800	\$864	\$3,569
1200	\$576	\$2,610
900	\$432	\$2,028
600	\$288	\$1,500
400	\$192	\$1,071
200	\$96	\$902
100	\$48	\$642
50	\$48	\$300
25	\$48	\$250
12	\$48	\$250
6	\$48	\$250

FEEDER INPUT PARAMETERS

B35. Copper Feeder Structure Fractions

Definition

The relative amounts of different structure types supporting sheath feet of copper feeder cable in each density zone. Aerial feeder cable is attached to telephone poles, buried cable is laid directly in the earth, and underground cable runs through underground conduit.

Default Values

0-5	.50	.45	.05
5-100	.50	.45	.05
100-200	.50	.45	.05
200-650	.40	.40	.20
650-850	.30	.30	.40
850-2,550	.20	.20	.60
2,550-5,000	.15	.10	.75
5,000-10,000	.10	.05	.85
10,000+	.05	.05	.90

B36. Copper Feeder Buried Installation Cost/Foot

Definition

The cost per foot of placing buried copper feeder cable.

Default Values

0-5	\$1.77
5-100	\$1.77
100-200	\$1.77
200-650	\$1.93
650-850	\$2.17
850-2,550	\$3.54
2,550-5,000	\$4.27
5,000-10,000	\$13.00
10,000+	\$45.00

B37. Copper Feeder Conduit Installation Cost/Foot

Definition

The cost per foot of placing underground conduit and copper feeder cable.

Default Values

0-5	\$10.29
5-100	\$10.29
100-200	\$10.29
200-650	\$11.35
650-850	\$11.38
850-2,550	\$16.40
2,550-5,000	\$21.60
5,000-10,000	\$50.10
10,000+	\$75.00

B38. Copper Feeder Manhole Spacing, feet

Definition

The distance, in feet, between manholes for copper feeder cable.

Default Values

0-5	800
5-100	800
100-200	800
200-650	800
650-850	600
850-2,550	600
2,550-5,000	600
5,000-10,000	400
10,000+	400

B39. Copper Feeder Pole Spacing, feet

Definition

Spacing between poles supporting aerial copper feeder cable.